

REMARKS

Claims 1-14 are pending in the present application. Independent claim 1 is directed to a polarizing plate. Claims 2-5 and 9-12 depend directly or indirectly on claim 1. Independent claim 6 is directed to an optical member. Claim 7 depends on claim 6. Independent claim 8 is directed to a liquid crystal display. Independent claim 13 is directed to a process for producing a polarizing plate. Claim 14 depends on claim 13.

In the Office Action, claims 1-4 and 8 remain rejected under 35 U.S.C. 102(b) as anticipated by US 4,388,375 to Hopper et al. (Hopper), and claim 5 remains rejected under 35 U.S.C. 103(a) as obvious over Hopper in view of US 3,531,351 to Buzzell (Buzzell).

In addition, claims 6-7 are newly rejected under 35 U.S.C. 103(a) as obvious over US 4,545,648 to Shulman et al. (Shulman) in view of Hopper, claims 9-12 and 14 are newly rejected under 35 U.S.C. 103(a) as obvious over Hopper, and claim 13 is newly rejected under 35 U.S.C. 103(a) as obvious over Buzzell.

In response to the argument made in the response to the previous Office Action that the adhesive layer in Hopper cannot take up boric acid because it has substantially no exposed surface, the Examiner alleges that, since Hopper teaches that the exposed "PVA film portion" is stabilized, this means that boric acid has migrated throughout the PVA layer, and as a result, boric acid has also migrated throughout the PVA adhesive underneath.

The rejection is respectfully traversed. Applicants urge that boric acid migrates within an iodine-stained PVA layer, but is not substantially in a set or hardened adhesive layer. As a result, boric acid cannot migrate from the PVA polarizer film to PVA in the adhesive layer of Hopper. In particular, if this interpretation set forth in the Office Action were true, it is submitted that

Comparative Example 1 on page 9 of the present specification would show improved adhesion for the PVA adhesive because of cross-linking due to migrated boric acid. On the contrary, adhesion through the PVA adhesive layer is insufficient and peeling occurs as shown in Table 1. This shows that boric acid does not migrate into the PVA adhesive and that the PVA adhesive is not stabilized substantially.

Also, if boric acid provided for a crosslinking treatment during a process of producing a polarizer was made available at the side of the adhesive layer on the PVA polarizing film, the boric acid exposed from the PVA polarizing film would enable adhesion to the transparent protective film without using an adhesive. However, Hopper, like the present invention, uses an adhesive layer. This also shows that the boric acid for the stabilization of the polarizing film does not reach the adhesive layer substantially.

In addition, in a typical process of producing a polarizing plate, the PVA polarizing film is treated with boric acid and then dried. It is commonly known that the crosslinking reaction of the boric acid is completed in the drying step, so that boric acid cannot migrate from the PVA polarizing film to the adhesive after completion of the crosslinking reaction. This is another reason why the boric acid does not migrate to the adhesive layer in Hopper.

Further, the other cited references fail to remedy these deficiencies of Hopper. Therefore, the present claims are not taught or suggested in Hopper or any combination of the cited references including Hopper.

Further, with respect to claim 13, which is rejected over Buzzell alone, this rejection is also respectfully traversed. Namely, Buzzell only discloses using a cross-linking agent with the PVA polarizer layer, but not in the adhesive. Contrary to the interpretation set forth in the Office

Action, it would not have been obvious to modify Buzzell to use a cross-linking agent in the adhesive as well as in the polarizer layer.

Reference is made to the discussion of the cross-linking agent in Buzzell, which indicates that the cross-linking agent must be carefully adjusted to improve dimensional stability of the stretchable and swellable polarizer layer (see col. 5, lines 14-15 and 25-28) without preventing dye absorption (see col. 5, lines 52-53). Thus, Buzzell is limited to the use of a crosslinking agent in a treatment of a polarizer before bonding to a protective layer. Further, Buzzell's explanations would have suggested to a person of the art that boric acid may have an influence, not only on the stabilization of the layer, but also on optical properties of the treated layer. For example, the crosslinking reaction after addition of the crosslinking agent to the adhesive might have been expected to result in the generation of gels in the adhesive, which might have degraded the appearance of the polarizing plate. As a result, even if, arguendo, a person of ordinary skill the art had found an interest in attempting to treat the adhesive layer, in the absence of any teaching or suggestion in Buzzell, would not have found guidance on a modification of the adhesive of Buzzell that would have been favorable to the stability of the adhesive but not detrimental to the optical properties.

In contrast, the present inventors have discovered that an adhesive layer comprising a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer, as recited in present claim 13, makes it possible to improve the stability and strength of the adhesive layer while ensuring appropriate optical properties. This feature of the presently claimed invention and its advantages are not taught or suggested in Buzzell. Therefore, for this reason alone, present claim 13 is not obvious over Buzzell.

In view of the above, it is submitted that the rejections should be withdrawn.

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 50-2866.

Respectfully submitted,

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